

ABSTRACT OF THE DISCLOSURE

A system for managing and updating a configuration database for a network element is described. The network element includes several managed objects. The managed objects represent logical representations that can be configured and modified through transactions executed by the network management software. The configuration management system includes a database manager that maintains a database file and a transaction log file. Each managed object includes an object reference key and a storage location pointer. Logical dependencies among objects are maintained through the linking of storage location pointers in the objects. Actions that modify an object are stored in the database file and the transaction log file. The present state of an object is stored by the database management system. In the event of an abort condition, the most recent configuration state of the network element is restored by re-applying the transactions stored in the transaction log file, and resolving the pointer links contained in the affected managed objects.